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Studies on the Helminth Fauna of Kyushu

Part 3. Cestode Parasites of Wild Birds from Ōita Prefecture

*With 4 Text-figures*

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**ABSTRACT** A new species of the genus *Raillietina* parasitic in *Corvus leuillantii*, two new species of the genera *Choanotaenia* and *Amoebotaenia* in *Scolopax rustricola*, a species of the genus *Haploparaxis* in *S. rustricola*, a species of the genus *Passerilepis* in *Turdus naumanni*, and a species of the genus *Metadilepis* in *Caprimulgus indicus yotaka* are described.

The material described in this paper was collected during the years 1974 to 1975 from the wild birds at Ōita Prefecture. Three species, one from a crow and two from a woodcock, of six cestodes examined, were considered by the authors to be new species.

***Raillietina (Paroniella) beppuensis* n. sp.**

**Diagnosis** (all measurements in millimeters). Strobila length, 145 to 147; maximum width, 2.8 to 3.1. Scolex 0.553 long and 0.553 to 0.580 wide, with retractile elliptic rostellum 0.124 long and 0.180 wide, armed with a crown of about 240 to 250, 0.018 long, arranged in two rows. Suckers oval, 0.083 to 0.150 by 0.138 to 0.180, armed with 5 to 6 rows of hooklets, 0.0035 to 0.014 long. Neck 0.33 to 0.42 in width. Immature and mature proglottides greater in width than in length. Genital pores unilateral, situated in anterior half of segment at about junction of first and second thirds.

Male genitalia:— Testes follicular, 0.055 to 0.069 by 0.083 in size, 31 to 34 in number, lying in median field of each proglottid and surrounding female genital organ. Cirrus pouch pyriform, 0.081 to 0.084 long and 0.039 wide. Vas deferens located in anterior one-third of segment, arising near median line and extending

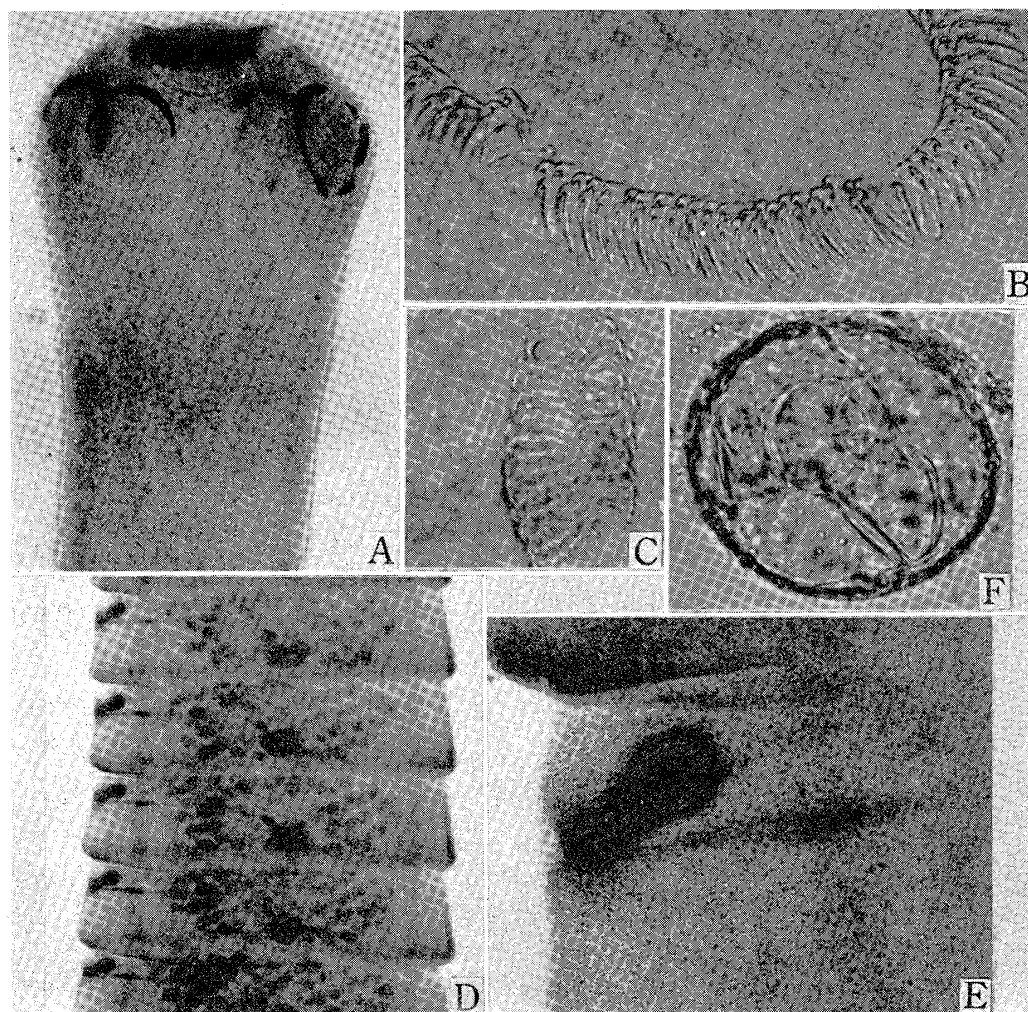


Fig. 1. *Raillietina (Paroniella) beppuensis* n. sp. — A. Scolex ( $\times 70$ ). — B. Rostellar hooks ( $\times 450$ ). — C. Acetabular hooks ( $\times 430$ ). — D. Stained mature segments ( $\times 15$ ). — E. Cirrus pouch ( $\times 240$ ). — F. Onchosphere ( $\times 670$ ).

laterally, forming many convolutions towards base of cirrus pouch into which it enters.

**Female genitalia:**— Ovary lobed, 0.373 to 0.415 wide, lying in middle line of each proglottid. Vitelline gland irregularly reniform, 0.138 by 0.207, lying just behind ovary. Vagina communicating with genital pore at part posterior to opening of cirrus pouch. In senile proglottides, uterus is divided into many capsules, each containing a single egg. Egg round or oval, 0.046 by 0.049 to 0.053 and surrounded by thin membranes. Onchosphere spherical, 0.018 to 0.021 in diameter; embryonal hooks 0.007 in length.

**Discussion.** So far as known to the authors, only one species, *Raillietina (P.) japonica* Kugi et Sawada has been described from Japanese crow, *Corvus leuicollis*. In comparing the present species with *R. (P.) japonica*, it distinctly differs from the

latter in the width of scolex, the diameter of rostellum, the size of cirrus pouch and in the number of testes.

*Host.* *Corvus leuillantii*.

*Habitat.* Small intestine.

*Locality and date.* Kannawa, Beppu City, Ōita Prefecture; August 9, 1974.

*Type depository.* Biological Laboratory, Nara University of Education, Nara, Japan.

*Choanotaenia macrocephala* n. sp.

Maximum length of the worm 45 to 50 and maximum width 1.7 to 1.8. All proglottides are wider than long except the posterior ones which are slightly longer than broad. The anterior portion of strobila is modified and embedded in the external papillae of the intestinal wall of the host. The scolex is 1.2 to 1.6 by 1.3 to 1.4. The small rostellum measures 0.235 in diameter. The rostellar sac measures 0.664 in length. The rostellum with a single row of 28 to 30 hooks, each measuring 0.038 to 0.042 in length. The four suckers are unarmed and each measures 0.595 to 0.622 by 0.558. The scolex is followed by a short unsegmented region. The genital pores are irregularly alternate and are situated in the middle of the anterior third of the lateral margin of a proglottid. Genital atrium not prominent.

The testes are 28 to 30 in number and they are situated in the posterior part of the segment, posterior to the ovary. The diameter of each testis is 0.042 by 0.049 to 0.056. The cirrus sac is 0.070 long and 0.035 wide. It contained an armed cirrus which is continuous with a very loosely coiled vas deferens.

The ovary is situated in the anterior region of the proglottid and is deeply lobed on the aporal side. Its maximum width measures 0.455 to 0.525. The vagina is posterior to the cirrus sac and very near to opening into the genital atrium. The similarly racemose vitelline gland lies behind the ovary, somewhat more poral and it measures 0.105 to 0.147 long and 0.084 to 0.098 wide. The seminal receptacle is indistinct. In gravid proglottides, the uterus fills up the entire proglottid. In senile proglottides, the uterus breaks up into many egg-capsules, each capsule containing a single egg. The egg is ovoid, measuring 0.081 to 0.098 by 0.056 to 0.067. The onchosphere is spherical, 0.021 in diameter; embryonal hook is 0.011 long.

*Discussion.* Recorded as a rostellum armed with a single row of hooks are the species of *Choanotaenia* from the woodcock, *Scolopax rusticola*: *C. jayeuxi* Tseng, 1932; *C. triganciensis* Joyeux et Baer, 1939; *C. cayennensis* var. *scolopacis* Joyeux et Baer, 1939; *C. joyeuxibaeri* Lopez-Neyra, 1952; *C. sleswicensis* (Krabbe, 1882); *C. thraciensis* Kamburov, 1969; *C. stellifera* (Krabbe, 1869); *C. coronata* (Creplin, 1829) and *C. olgae* (Krotev, 1954). Of these, the present species resembles *C. olgae*. However, it differs from *C. olgae* in the number of rostellar hooks and the shape of ovary; *C. olgae* possesses 12 hooks, while the present species has 28 to 30, and in the former the ovary is racemose, while in the latter it is deeply lobed.

*Host.* *Scolopax rusticola*.

*Habitat.* Small intestine.

*Locality and date.* Kuniigashi, Beppu City, Ōita Prefecture; November 14, 1974.

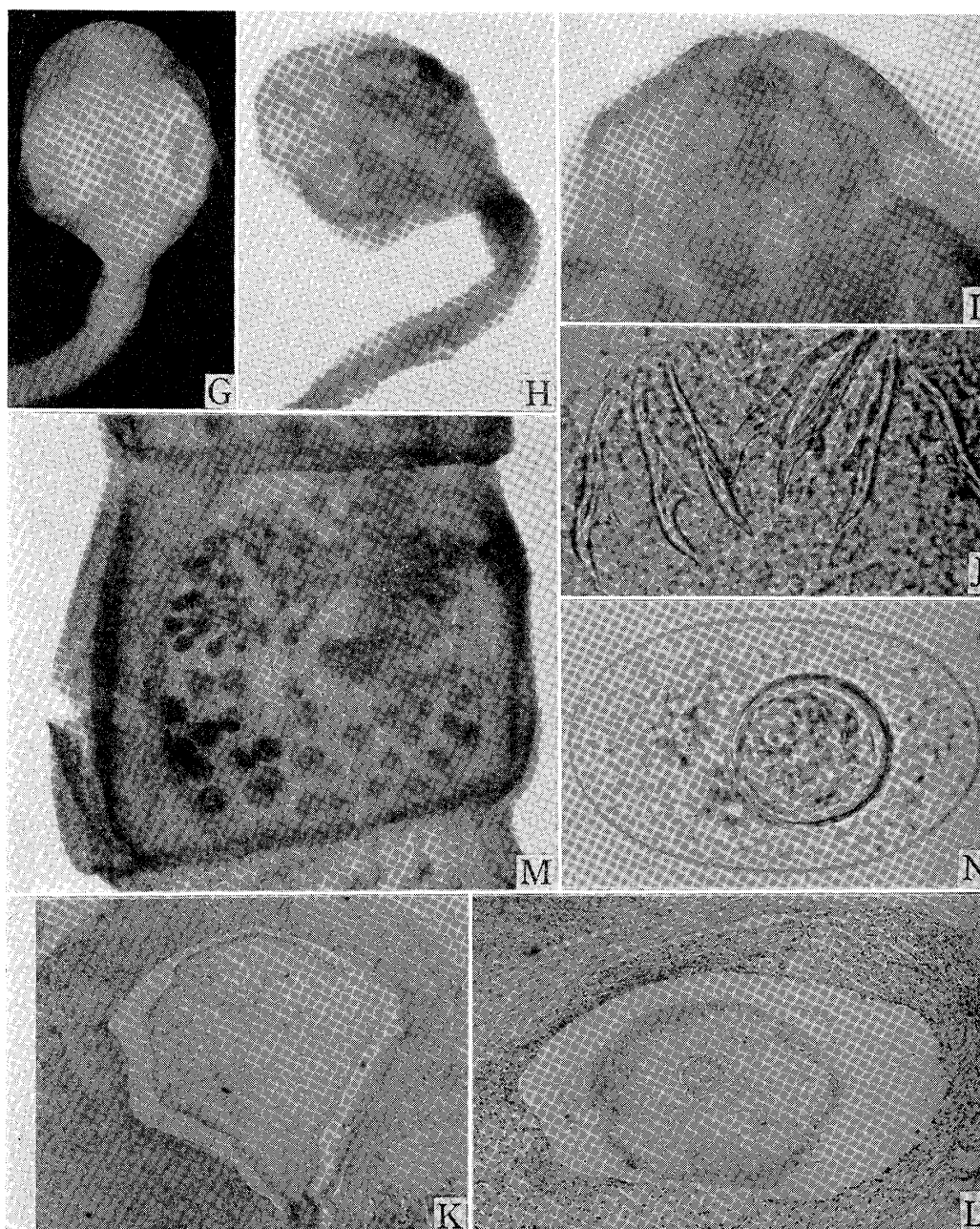


Fig. 2. *Choanotaenia macrocephala* n. sp. — G. Scolex ( $\times 20$ ). — H. Stained scolex under cover glass pressure ( $\times 20$ ). — I. Rostellum ( $\times 35$ ). — J. Rostellar hooks ( $\times 600$ ). — K. Sagittal section of papilla on sacculus rotundus, with scolex of *C. macrocephala* ( $\times 30$ ). — L. Transverse section of papilla on sacculus rotundus with rostellum of *C. macrocephala* ( $\times 30$ ). — M. Stained mature segments ( $\times 35$ ). — N. Onchosphere ( $\times 900$ ).

*Type depository.* Biological Laboratory, Nara University of Education, Nara, Japan.

*Amoebotaenia longirostellata* n. sp.

Strobila length 0.8 to 1.3, maximum width 0.2 to 0.3, consisting of 10 to 19 segments. Scolex 0.161 to 0.210 long and 0.240 to 0.266 wide; four suckers prominent, 0.07 to 0.09 by 0.09 to 0.105. Rostellum plug-shaped, 0.245 to 0.259 in length and 0.098 to 0.105 at its enlarged apex, provided with strong circular muscles; rostellum armed with a single row of 28 hooks, each measuring 0.028 in length. Rostellar sac muscular, extending beyond suckers. Neck very short, 0.12 to 0.14 broad. Anterior immature and mature proglottid broader than long and increasing in length and breadth posteriorly, 0.28 long and 0.37 wide in the terminal senile proglottid. Genital pores regularly alternate, located somewhat anterior to the middle of lateral margin.

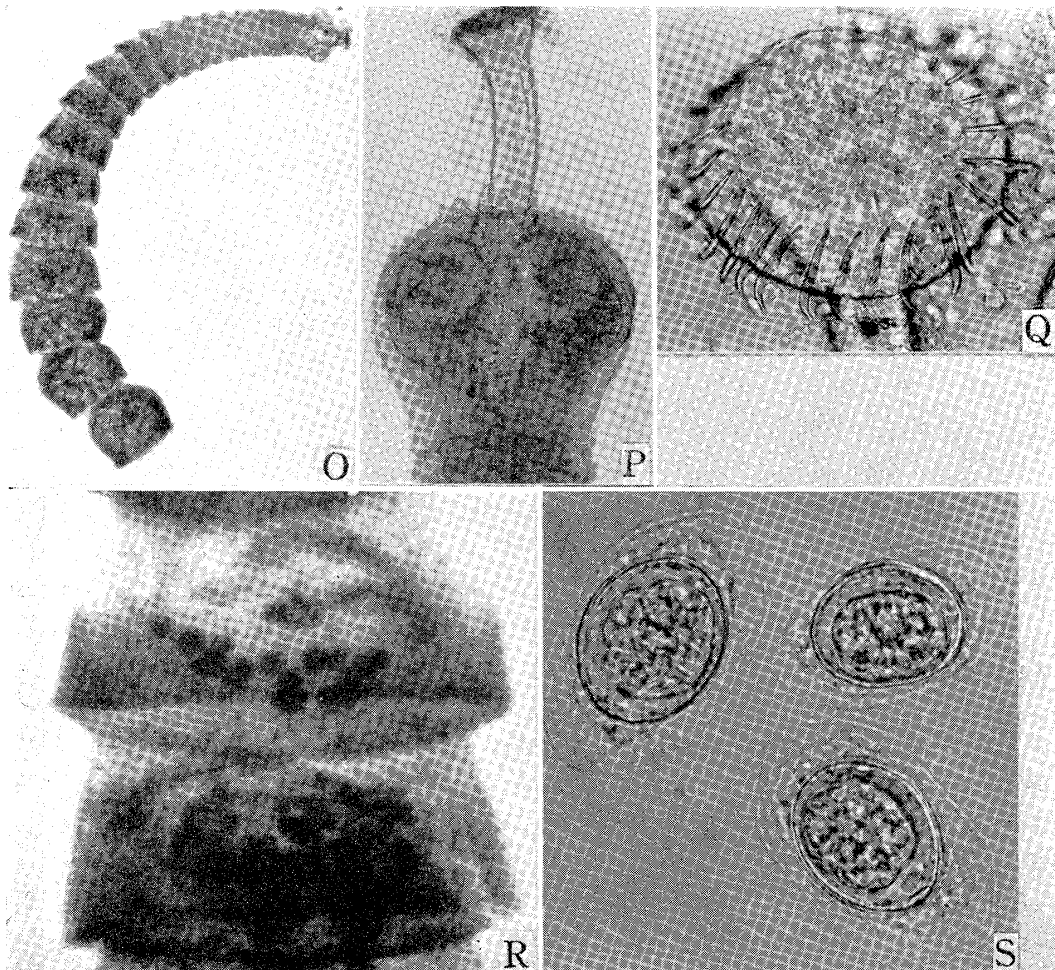


Fig. 3. *Amoebotaenia longirostellata* n. sp. — O. Strobila ( $\times 70$ ); — P. Scolex with rostellum completely extended ( $\times 125$ ). — Q. Rostellar hooks ( $\times 430$ ). — R. Stained mature segments ( $\times 175$ ). — S. Onchosphere ( $\times 565$ ).



Testes 14 in number, 0.021 to 0.056 by 0.035 to 0.063, in posterior in teravascular field. Vas deferens narrow, convoluted, anterolateral to ovary. Cirrus pouch small pyriform, comparatively thin-walled, 0.035 by 0.049.

Ovary two-winged, 0.196 wide, near anterior end of segments. Vitelline gland compact, 0.028 to 0.035 by 0.049 to 0.077, immediately behind isthmus of ovary. Seminal receptacle oval, 0.140 by 0.028, at middle of ovarian area. Uterus occupying entire segment when fully developed. Eggs oval to spherical, 0.028 in diameter; onchosphere spherical, 0.023 to 0.025 in diameter; embryonal hooks 0.014 long.

*Discussion.* The present species is distinguished from any of the known species of the genus, *Amoebotaenia yamashigi* Yamaguti, 1935, and *A. lumbrici* (Villot, 1883), from *Scolopax rusticola*, by the number and length of the rostellar hooks and the number of testes.

*Host.* *Scolopax rusticola*.

*Habitat.* Small intestine.

*Locality and date.* Kuniyigashi, Beppu City, Ōita Prefecture; November 14, 1974.

*Type depository.* Biological Laboratory, Nara University of Education, Nara, Japan.

#### *Haploparaxis clerci* Yamaguti, 1935

This species was found on November 14, 1974, in the small intestine of *Scolopax rusticola* from Beppu City. On the anatomy of the specimen, the authors have nothing to add to Yamaguti's detailed description.

#### *Passerilepis crenata* (Goezl, 1782)

A few specimens of this cestode were found in the small intestine of *Turdus naumanni* from Hinode-chō, Beppu City, on February 5, 1975. After a careful investigation, these specimens were identified with *Passerilepis crenata* (Goezl, 1782).

Strobila 80 to 86 in length, 1.1 to 1.8 in breadth. Scolex 0.18 to 0.21 long and 0.21 to 0.26 wide; suckers, discoidal, 0.084 to 0.098 in diameter. Rostellum, 0.042 to 0.077 by 0.070 to 0.084, armed with a single row of 10 hooks, each measuring 0.0245 in length. Neck, 0.16 to 0.098 wide and 0.32 to 0.98 long. Genital pores unilateral, situated in the middle of segment margins. Testes 3 in number, arranged in the form of triangle. Cirrus sac elongate, 0.140 to 0.154 long and 0.035 to 0.042 wide. Internal seminal vesicle 0.105 to 0.112 by 0.035 to 0.042 and external seminal vesicle 0.133 by 0.070. Ovary transversely bilobate, 0.140 in width. Vitelline gland small succular, 0.035 by 0.042, located just behind ovary. Seminal receptacle prominent, 0.063 to 0.077 by 0.049 to 0.056. Eggs spherical, 0.088 to 0.091 by 0.074 to 0.081; onchosphere, 0.053 to 0.056 by 0.042 to 0.049; embryonal hooks 0.021 to 0.025 in length.

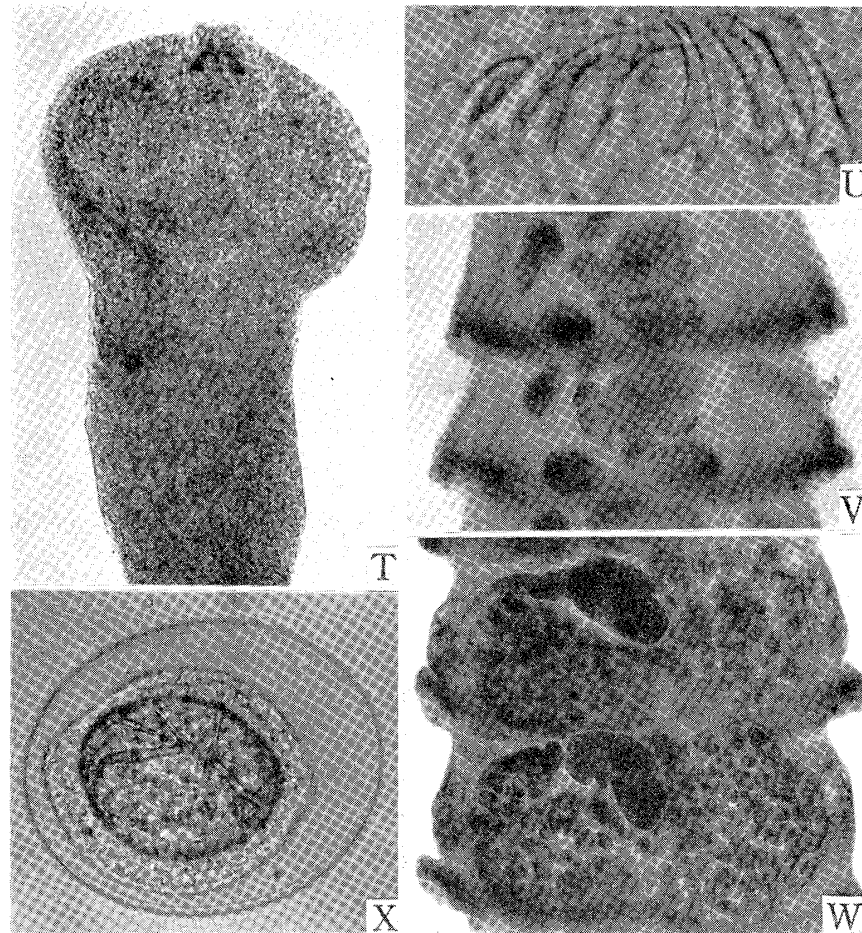


Fig. 4. *Passerilepis crenata* (Goezl, 1782). — T. Scolex ( $\times 165$ ). — U. Rostellar hooks ( $\times 820$ ). — V. Stained mature segments ( $\times 25$ ). — W. Stained gravid segments ( $\times 25$ ). — X. Onchosphere ( $\times 360$ ).

***Metadilepis globacantha* (Fuhrmann, 1913)**

The present species was obtained from the small intestine of a nighthawk, *Caprimulgus indicus yotaka*, at Noguchihara, Beppu City, on July 2, 1975. The examination of the present form by the authors disclosed that the tapeworm agrees in all morphological details with *Metadilepis globacantha* from *Caprimulgus europaeus* and *C. ruficollis* in Europe.

Worm length, 56 to 60; maximum breadth 1.0 to 1.3. Scolex 0.364 long and 0.322 broad. Rostellum, 0.126 in diameter, armed with double rows of 34 to 36 hooks, each measuring 0.028 to 0.032. Suckers unarmed and each measures 0.105 to 0.112 by 0.126. Neck 0.133 broad. Genital pores irregularly alternating and situated in the middle of proglottid margins. Testes measure 0.021 to 0.028 in diameter. Ovary lobed, 0.140 to 0.161 broad, lying in middle line of each proglottid. Vitelline gland reniform, 0.070 to 0.077 by 0.056, lying just behind ovary.

Cirrus pouch, ovoid, 0.035 wide and 0.049 long. Egg elliptic, 0.077 to 0.080 by 0.028; onchosphere ovoid, 0.018 by 0.039; embryonal hook 0.014 to 0.018 long.

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